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ScienceDirect

Procedia - Social and Behavioral Sciences 191 (2015) 915 – 918

Procedia
Social and Behavioral Sciences

WCES 2014

Educational Needs And Future Prospects In The Field Of Health And Safety At Work In Spain

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Abstract

Aiming to identify educational needs to promote employment in the field of Occupational Health and Safety in Spain, this paper analyses the matching degree between the existing university educational offer and the professional demand. Results indicate that the new official Masters are well driven but, at graduate level, a broad range of topics regarding occupational hazards should be promoted and the scope of cross subjects should be expanded. New profiles that are emerging within this field are also identified.

Selection and peer-review under responsibility of the Organizing Committee of WCES 2014

Keywords: Prevention Occupational Hazards (POH), POH educational offer, POH employment

1. Introduction

The promotion of health and safety at work, as well as the promotion of more and better jobs are important goals in the European Union (Venema *et.al.*, 2011) and particularly in Spain. This paper shows an overview of the results of a study on employability, future needs and future prospects in the field of Health and Safety work in Spain that was made by the Technical University of Madrid (UPM, 2011) and promoted by the Community of Madrid and the European Social Fund. The study was framed within both, the Community strategy (Commission of the European Communities, 2007) and the Spanish strategy (INSHT, 2007) of health and safety at work 2007-2012. The main goal of that study was "to analyse employability and to identify training needs and future prospects to face the demand of professionals for the prevention of occupational hazards". The achievement of this goal rested on the achievement of four specific objectives. This paper is focussed on the fourth: "to analyse the matching degree

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Selection and peer-review under responsibility of the Organizing Committee of WCES 2014
doi:10.1016/j.sbspro.2015.04.541

between the existing educational supply and the demand of professionals in order to identify areas of improvement to promote employability" (UPM, 2011). The paper also aims to present a reflection element for the elaboration of the new Spanish health and safety strategy towards 2020.

2. Methodology

The study was based on statistical and documentary analysis complemented by expert´s feedback. For the implementation of the methodology the following steps were undertaken: literature review – reports, working documents and scientific papers; search and analysis of training curricula linked to Prevention of Occupational Hazards (POH); search and analysis of primary and secondary statistical data related to the demand of professionals; collection of expert's knowledge; and integration and analysis of the different sources of information. The search and analysis of training curricula linked to POH included all levels of education: secondary technical education and higher university education at graduate and post graduate level. The training courses that aim to encourage changes in the behaviour of workers and their employers to adopt health-focused approaches were also included in the analysis. The statistical data incorporated, on the one hand, registration of jobseekers – those who are registered in the employment offices as applicants seeking work in the field of POH– and, in the other hand, registration of employment contracts – number of labour contracts in that field. Besides, and in order to know the profiles that are required by companies, a search of the jobs posted in different seeking job sites on the internet has been made. The results of the search were collected in a table for subsequent analysis. The table included information on the position offered and the job requirements. To collect experts' knowledge, a participative process based on open interviews with relevant professionals in the field was carried out. A total of 30 face to face interviews were made.

3. Discussion of results

3.1. Training needs in prevention of occupational hazards

University education in the field of POH is provided at master level. Until 2010 the master's supply was oversized. These masters were imparted by private non-university institutions and their supply depends on the students demand. The higher number of students willing to be involved in these masters is related to the higher rates of university unemployment. Unemployment encourages the realization of post-graduate studies (Gray et.al., 1992; Amstrong, 1996). University training is conceived as a measure of protection from unemployment (Martínez, 1999). Post-graduate studies that have a transversal nature and can be accessed from different degrees, as it is the case in the POH masters, constitute and eligible option. Consequently, the number of trained technics in POH overcame the companies demand. From 2010 on, the supply of masters depends on the universities. The new official masters include a monitoring and on-going system about the employability of their graduates in order to adapt the master taking into account the findings of the monitoring process. Hopefully, the monitoring and control system will result in a balance between the supply of trained technics and the demand of these technics by companies. The fact that university POH education is centralized in postgraduate levels is adequate because, in the current system, it is mandatory for any POH specialist to have a previous university degree. In this way, the post-graduate course gives them an added value as POH specialist, but within their field of work. Because of the transversal nature of the POH, the training must be general and addressed to every worker and every student, regardless the field of work and the type of study. At national level there are about 2 400 university grades in Spain. Of these, around a quarter present some contents on occupational risk prevention. These contents appear mainly in the branch of Engineering and Architecture and (over 50% of the degrees) and in Social Sciences (20%). In most cases they are optional subjects or are included in subjects with a wider topic. It is needed to incorporate POH topics in the curricula of all degrees. If these topics are included in degrees that are not linked to prevention systems, such as, for example, economists or lawyers, it could be guaranteed that, in the future, prevention culture will be considered by decision makers of companies (Ruiz Frutos, 1999). With regard to the training courses addressed to workers and employers, these must be specific taking into account the particularities of each sector, each position and each worker. To implement more specific training actions a specialized trainer is required. This implies an additional cost for the employer. The employer must acknowledge the prevention costs as an investment, rather than an obligation. Although progress is

being made in the right direction there is still a lack of preventive culture by both sides: workers and employers (Rosa, 2012). POH trainers should have pedagogy competences so as to raise awareness about the importance of the POH culture. The promotion of a prevention culture should start in the curricula of the first levels of education. Just as it is encouraged competitiveness, excellence and a set of values, one of the principles that should consider primary and secondary education is the preventative culture (García, 2011).

3.2. Professional demand in prevention of occupational hazards

Job demand in the field of POH in Spain increased a 124 per cent during the period 2006 – 2010. This increase came together with a decrease in the employment rate due to the economic crisis. During that period, and because of the economic crisis and the unemployment situation, the number of the total jobs created (employment contracts) decreased a 33.8 per cent. The decrease in the number of jobs created in the field of POH was equivalent (33.5 %). POH specialists perform their profession in the service of the workers. Is, therefore, very consistent that the hiring of POH specialists has a parallel behaviour to the hiring of the rest of workers. Throughout the period a POH specialist every 1700 workers was hired (approximately). A third of the persons hired to occupy a job related to POH during the period 2006-2010 had completed university studies. Those who had a technical degree were the professionals who show a higher complementarity with POH issues. These data, derived from the statistics of registration of employment contracts, is consistent with the data derived from the jobs posted in the internet seeking job sites: more than half of the offers were addressed to post-graduates students with a POH master and most of them (80%) asked for a minimum experience of a year performing the tasks of a POH technic. The educational profile of PHO professionals comprises two dimensions: the degree and the post-degree specialty. PHO discipline includes three specialties: Workplace Safety; Industrial Hygiene; Ergonomics and Applied Psychology. The demanded degrees depend on the activity of the company. But the most popular are technical graduates (engineering and architecture). This is because it is an essential requirement in the construction sector where POH is particularly important (Swuste, et.al., 2012 ; Chaib, et.al., 2012). Workplace Safety specialty is related to work accidents. Industrial Hygiene is related to professional diseases that are noticeable at the long term. Being these issues a main concern they have deserved special attention (Chaib, et.al*.,* 2012). But at present there is greater demand on the specialty of Ergonomics and Psychology because it has had less priority and has been neglected until now. The expectation is an increased demand in the future (Gil-Monte, 2010).

4. Conclusions and future trends

The educational offer and the new graduate and post-graduate curricula are well driven. The new university masters have been drawn in such a way that provide to their graduates a suitable and according to the demands of the labor market profile. Furthermore, technical degrees have incorporated into their curricula optional topics on POH. Efforts have been made to adapt the educational offer to the professional demand resulting in suitable courses. However, a broad range of topics regarding occupational hazards should be promoted and cross subjects should be incorporated in all degrees regardless the field of the studies. An increase in the demand of new professional profiles to occupy employs devoted to POH is expected in the coming years. This will coexist with new promotion of university graduates with a suitable profile. Training in POH is becoming more and more specific and adapted to each sector and each position. Within this frame new possibilities are emerging. Some of them follow. The creation of Early Warning Systems should require specialist trained to detect imminent danger and to act accordingly. To train these specialists a new training program is needed that, besides providing the necessary training, should endow these specialists with authority to act. This implies the development of new technologies. Endowment of I+D+i funding focused on this field would be advisable. POH couches for workers and employers should provide an active training. In this context, it is important that the POH coach works with a responsible of each company department who has a deep knowledge of the characteristics of each job and each position. As any other teacher, a person who provides POH courses to workers and employers must be skilled on didactics and pedagogy. Therefore, POH trainers should take courses on pedagogical knowledge, in addition to technical knowledge, and a new trainer of trainers profile is needed.

It would be desirable to create a body of forensic engineers whose function was to identify the causes and facts so that this information can be taking into account in the training courses and programs of the company.

Acknowledgements

Funding for this study was provided by the Government of Madrid (*Consejería de Empleo*) and the European Social Fund.

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